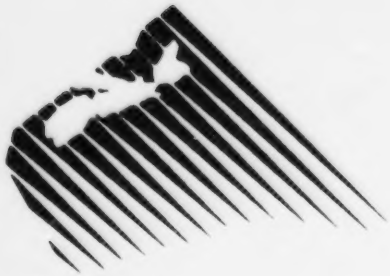

CANADA — NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

100-06624/

Guidelines
Respecting Drilling Programs
in the Nova Scotia Offshore Area

Draft

April 1999

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LIST OF REFERENCED DOCUMENTS

Acts

- Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, July 21, 1988.
- Canada Shipping Act
- Coasting Trade Act
- Customs Tariff and Excise Tax Act
- Canadian Laws Offshore Application Act
- Immigration Act
- Occupational Health and Safety Act, R.S.N. 1990

Regulations

- Nova Scotia Offshore Oil and Gas Spills and Debris Liability Regulations SOR/95-123, 28 February 1995
- Nova Scotia Offshore Petroleum Drilling Regulations SOR/92-676, 23 November, 1992 w/ 11 April 1995 Amendent SOR/95-188
- Nova Scotia Offshore Area Oil and Gas Operations Regulations Draft 27 March 1990
- Nova Scotia Offshore Certificate of Fitness Regulations SOR/95-187, 11 April, 1995
- Nova Scotia Offshore Petroleum Installations Regulations SOR/95-191, 11 April, 1995
- Petroleum Occupational Safety and Health Regulations (Draft), 5 April, 1990
- Nova Scotia Offshore Petroleum Area Diving Regulations SOR/95-189, 14 March 1995
- Nova Scotia Offshore Petroleum Area Geophysical Regulations SOR/95-144, 11 April 1995
- Nova Scotia Offshore Petroleum Area Production and Conversation Regulations SOR/95-189, 11 April 1995

Guidelines

- Geophysical & Geological Programs in the Nova Scotia Offshore Area - Guidelines for Work Programs, Authorizations & Reports, February, 1992
- Guidelines Concerning Financial Responsibility for Drilling in the Newfoundland and Nova Scotia Offshore Areas, February, 1992
- Guidelines Respecting Physical Environmental Programs During Petroleum Drilling and Production Activities on Frontier Lands, April, 1994
- Offshore Waste Treatment Guidelines, September, 1996
- Information on Well Data, Geological Data, Geophysical data and Land rights with Land Division Guideline; July 1994
- Guidelines on Plans and Authorizations Required for Development Projects; August 1995
- Guidelines On Operator's Safety Plans; July 1994
- Industrial Benefits and Employment Plan Guidelines - Nova Scotia Offshore Area; January 1994
- Guidelines on the Issuance of Exploration Licenses; October 1993
- Joint Guidelines Respecting Data Acquition and Reporting for Well, Pool and Field Evaluations in the Newfoundland & Nova Scotia Offshore Areas

Standards

- Standards Respecting Mobile Offshore Drilling Units (TP6472) December 30, 1985.
- Code For The Construction and Equipment Of Offshore Drilling Units, 1989 (IMO, 1989 MODU CODE and 1991 amendments to the 1979 and 1989 Codes)
- Standards Respecting Standby Vessels (TP7920), October, 1988

Others

- Canadian Offshore Petroleum Industry Qualifications, Safety, Training and Certification (Drilling), November 1990

1.0 INTRODUCTION

The Canada-Nova Scotia Offshore Petroleum Board (the Board) is responsible for the administration of regulations pertaining to exploration and production of petroleum in the Nova Scotia offshore area.

The Guidelines have been prepared to assist operators planning to conduct a drilling program within this area by providing information and explanation of the requirements contained in the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*, the *Canada-Nova Scotia Offshore Petroleum Resources Accord* (the Acts[1]) and subordinate legislation.

The **Drilling Program Authorization (DPA)** and the **Approval to Drill a Well (ADW)** are the primary regulatory approvals necessary to conduct drilling operations.

The DPA authorizes the operator to conduct a drilling program, consisting of one or more wells within a specified area and time using one or more drilling installations, and includes all operations and activities ancillary to the program. The drilling program commences upon spudding the first well in the program and ends when the last well in the program is terminated.

The ADW permits the operator to drill a particular well using the drilling and evaluation procedures described in the application and accompanying well prognosis.

Prior to authorizing a drilling program, the Board has a duty to ensure that:

- the operator is a registered holder of the necessary licences;
- an approved Canada-Nova Scotia Benefits plan is in place;
- satisfactory evidence of financial responsibility has been furnished;
- a duly executed Declaration of Fitness has been provided;
- a valid Certificate of Fitness has been obtained for the drilling installation(s);
- suitable standby vessel(s) will be provided;
- an appropriate safety assessment of the operator's facilities, equipment, operating procedures, contingency plans and personnel has been performed;
- the requisite information regarding drilling and well evaluation has been provided; and
- an environmental assessment of the proposed program has been performed.

Additional information and copies of relevant application forms may be obtained from the Board at:

Canada-Nova Scotia Offshore
Petroleum Board,
6th Floor, TD Centre,
1791 Barrington Street,
Halifax, N.S., B3J 3K9
Tel:(902) 422-5588
Fax:(902) 422-1799

2.0 EXPLORATION/SIGNIFICANT DISCOVERY/PRODUCTION LICENCE

The exclusive right to drill for petroleum is conferred to interest holders by an exploration licence, a significant discovery licence or a production licence. The statutory requirements pertaining to these licences are in Part II (sections 49 to 137) of the Act. Information on these matters may be obtained from the Board's Legal and Land department.

3.0 OPERATING LICENCE

The statutory requirements pertaining to operating licences are specified in sections 140 and 142 of the Act and in the *Regulations Respecting Oil and Gas Operations in the Nova Scotia Offshore Area*.

An operating licence is a prerequisite for any drilling program. Any individual or corporation may apply to the Board for an operating licence by completing and forwarding one duly executed copy of the application form to the Board. A sample of the operating licence and the instructions for applying for the licence are provided in Appendix A. An operating licence is valid from its commencement date to March 31st next following its date of issuance.

[1] References to specific sections of the Accord Acts are to the Federal version for ease of reference.

4.0 DRILLING PROGRAM AUTHORIZATION

4.1 Application

In accordance with section 5 of the drilling regulations, an application for DPA may be made by completing and forwarding three duly executed copies of the application form to the Board. Each form must be signed by the senior operator's representative responsible for the program.

The lead time for submission of DPA applications is not specified by regulations, however, operators are encouraged to apply for a DPA three to four months prior to the anticipated spud date of the first well in the drilling program. The DPA will be issued for a specified period of time, depending on the proposed drilling schedule.

A sample DPA form is provided in Appendix A. The typical information which should be provided to the Board with the application, or made available to the Board's staff during the review of the application, is listed in Appendix B.

4.2 Canada-Nova Scotia Benefits Plan

Pursuant to section 45 of the Act, a Canada-Nova Scotia Benefits Plan must be submitted to and approved by the Board prior to authorizing any drilling program. Further information on this matter is provided in the *Industrial Benefits and Employment Plan Guidelines - Nova Scotia Offshore Area.*

4.3 Evidence of Financial Responsibility

Section 168 of the Act and section 72 of the drilling regulations require that an operator provide proof of financial responsibility, in a form and in an amount satisfactory to the Board. This is required as a contingency against potential petroleum spill or debris related claims, to ensure that the operator completes the drilling program and terminates the well, leaving the drill site in a satisfactory condition, and to satisfy the Board that it is able to meet other financial liabilities. The limits of absolute liability for spill and debris related claims are prescribed by the *Canada-Nova Scotia Oil and Gas Spills and Debris Liability Regulations.*

Additional information on financial responsibility is provided in **Guidelines Concerning Financial Responsibility for Drilling in the Newfoundland and Nova Scotia Offshore Areas.**

4.4 Declaration of Fitness

Prior to the issuance of a DPA, an operator is required to provide a duly executed copy of the Declaration of Fitness form as specified by section 143.1 of the Act. This document attests that, insofar as the operator is concerned, the equipment and installations to be used in the drilling program are fit for purpose, appropriate operating procedures will be used and qualified personnel will be employed.

The execution of this form, and the provisions of the *Occupational Health and Safety Act*, places onus on the operator to ensure the health and safety of personnel. The Board expects operators to exercise due diligence prior to signing the declaration and during the execution of the program.

The prescribed Declaration of Fitness form, a sample of which is provided in Appendix A, is available from the Board.

4.5 Certificate of Fitness

Pursuant to section 143.2 of the Act and section 6 of the drilling regulations (note: amendement), an operator is required to obtain and provide to the Board a certificate of fitness for the drilling installation issued by one of the recognized Certifying Authorities, i.e., American Bureau of Shipping, Bureau Veritas, Det Norske Veritas or Lloyd's Register of Shipping. It is a requirement of the Act and a condition of the DPA that the certificate remain valid and in force throughout the drilling program.

The Certifying Authority may issue the certificate upon determining that the installation is fit for purpose and meets the relevant provisions of the following regulations:

- the *Nova Scotia Offshore Certificate of Fitness Regulations,*
- the IMO *Code For The Construction And Equipment of Mobile Offshore Drilling Units, (1989 MODU CODE)* and any amendments to this document, as are made from time to time.

Canadian flagged drilling vessels must also meet the requirements of the *Canada Shipping Act,* administered by the Marine Safety Division of Transport Canada.

4.6 Standby Vessels

Sections 11 and 12 of the drilling regulations specify that a standby vessel be provided and equipped in accordance with the *Standards Respecting Standby Vessels (TP7920)*, October, 1988. Operators are responsible for obtaining a "Letter of Compliance" from Marine Safety attesting that the standby vessel(s) meets these standards.

4.7 Safety Assessment

The safety of the proposed program is assessed by the Board's staff prior to the authorization of any drilling program. This assessment is made pursuant to section 142.2 of the Act which requires that the Board, prior to issuing a DPA, consider the safety of the program by reviewing the system as a whole, as well as its components, including structures, facilities, equipment, operating procedures and personnel.

Operators are expected to demonstrate that a systematic approach to safety management will be in place throughout the program and to describe how safety management, including the coordination of the safety management programs of the major contractors, fits within the overall management of the program. The Board expects operators to identify all hazards associated with a drilling program and to ensure that appropriate measures are in place to control the hazards.

The hazards which need to be examined include, but are not limited to:

- Blowouts
- Fires
- Explosions
- Heavy Weather
- Loss of Ballast Control
- Loss of Stability
- Helicopter Transportation
- Use of the Personnel Transfer Basket
- Ship Collisions
- Structural Failure
- Dropped Objects

During the Board's safety assessment, staff will pay particular attention to the various safety issues identified in Appendix E. In particular, the Board expects operators to demonstrate that the best practicable evacuation technology available is used on drilling installations.

The information which is typically requested to be submitted, or made available to the Board's staff, in connection with this review is listed in Appendix B.

Operators are also advised that an audit meeting is normally held with the operator and its major contractors following the CNSOPB's review of the documentation supplied for the safety assessment. This meeting is normally timed to occur approximately one month prior to spud. A field verification audit is normally performed onboard the drilling installation and at least one standby vessel immediately prior to spud.

4.8 Occupational Health and Safety

In accordance with a Memorandum of Understanding, the Board administers certain sections of the Nova Scotia *Occupational Health and Safety Act* which apply to the offshore area. In this regard, operators must be aware of the duties imposed on "employers, contractors and others, and with the requirements for "Joint Occupational Safety and Health Committees". Also, operators must be aware in regards to a workers "right to refuse dangerous work" as specified by the Act.

Additional information on this matter is provided in Appendix E.

It should also be noted that requirements related to "Joint Occupational Safety and Health Committees" on marine vessels are governed by Part II of the Canada Labour Code and that these requirements are consistent with those of the Nova Scotia *Occupational Health and Safety Act*.

4.9 Environmental Assessment

The operator should provide with its DPA application, sufficient information to permit an assessment of the potential environmental effects of its proposed activities, and should identify any measures which it proposes to mitigate these effects.

For operations offshore Nova Scotia, the following information should be provided:

- an estimate of types and quantities of substances which are expected to be discharged from the drilling installation during the drilling program, and a description of equipment and procedures which will be in place to treat these discharges. The Board's expectations regarding waste treatment are described in the *Offshore Waste Treatment Guidelines*, September, 1996. Note: The CNSOPB treats all hydrocarbon based drilling fluids as the same regarding discharges. Cuttings discharges to the ocean associated with hydrocarbon based fluids will be essentially pohibited as of January 1, 2000. (1% by wt.)
- Contingency plans for environmental emergencies, which are typically combined with those for potentially hazardous occurrences (refer to Appendix C).
- proposed arrangements for the measurement, observation and forecasting of environmental conditions. The Board's expectations in this regard are described in *Guidelines Respecting Physical Environmental Programs During Petroleum Drilling and Production Activities on Frontier Lands*, April, 1994. At an early stage in the drilling program, the operator should arrange for the Port Meteorological Officer of the

Atmospheric Environment Branch of Environment Canada to inspect the meteorological instrumentation on the drilling installation.

An operator which plans to conduct a drilling program in an area that has not been previously subject to environmental assessment is encouraged to consult with the Board as early as possible in its planning process, to permit the identification of any additional information that the Board may require. The operator should also plan to provide relevant information to the public and to consult with interested members of the public. In particular, the operator should provide for the advance notification of persons engaged in fishing activities in the proposed area of operations and the measures to be put in place to eliminate any potential mutual interference.

4.10 Other Requirements

Pursuant to the requirements of the Coasting Trade Act, all drilling installations and supply vessels engaged in Coasting Trade in Canadian waters, which activity includes oil exploration, must obtain an appropriate licence from Revenue Canada Customs, Excise and Taxation based on advice from the CNSOPB for drilling installations and the National Transportation Agency for supply vessels. For foreign vessels/installations temporarily operating in Canada, this Act requires that duties and taxes be paid as specified by the *Customs Tariff and Excise Tax Act*. Revenue Canada is the authority responsible for this matter.

Additional information on these matters may be obtained from:

Revenue Canada Customs, Excise and Taxation,
Carrier Control Section,
Transportation Division,
Connaught Building,
Mackenzie Avenue,
Ottawa, Ontario,
K1A 0L5
Tel: (613) 954-7204
Fax: (613) 957-9717

or National Transportation Agency,
Ottawa, Ontario,
K1A 0N9
Tel: (819) 997-6667
Fax: (819) 953-5686

The Canadian Laws Offshore Applications Act, which came into force in February, 1991, extends the Immigration Act to offshore installations.

Information regarding foreign personnel who wish to work temporarily in Canada may be obtained from:

Human Resources Development Canada
7001 Mumford Road
Halifax, Nova Scotia
B3J 3V1

Tel: (902) 426-8226
Fax: (902) 426-4096

or, outside Canada from any Canadian consulate.

5.0 APPROVAL TO DRILL A WELL (ADW)

5.1 Application

Pursuant to section 68 of the drilling regulations, an application for ADW may be made by completing and forwarding three duly executed copies of the application form approximately 21 days prior to spud. The application must be signed by the operator's senior representative responsible for the program. The ADW is conditional upon the operator commencing drilling within 120 days of the day the ADW was granted. For workovers, completions, or any subsequent well operations on development wells an *"Application To Alter The Condition Of A Well"* shall apply rather than the ADW.

The operator may be required to make an oral presentation to the Board summarizing the geological prognosis, the drilling, environmental and operational considerations and Canada-Nova Scotia benefits matters in respect of the well. This presentation is normally timed to occur around the time of the ADW submission.

5.2 Seabed Survey

The submission of an application for ADW is preceded or accompanied by documentation showing that the operator has investigated the nature of the seafloor and underlying sediments to identify any potential surface or subsurface hazards such as shallow gas. As these surveys are usually conducted using geophysical methods, an application for Geotechnical /Engineering/Environmental/ Program Authorization should be made to the Board at least 30 days in advance of any Well Site Survey. Please refer to the Board's publication *Geophysical and, Geological Programs in The Nova Scotia Offshore Area Program Guideline For Work Programs, Authorizations & Reports*, February, 1992.

5.3 Well Prognosis

A copy of the well prognosis and tentative survey plan of the well location, as specified by section 68 of the drilling regulations, must be provided with the

application. A suggested format for the well prognosis is provided in Appendix B.

6.0 RECORDS AND REPORTS

6.1 Drilling and Lithology Reports

Pursuant to subsection 153(2) of the drilling regulations, a report summarizing drilling and related operations, weather and sea conditions and lithology must be provided daily to the Board. This report(s) is required from the spud date until operations are terminated at the wellsite. The format used by operators for their internal reporting purposes is normally acceptable for the Board's monitoring purposes.

6.2 Weather Forecasts and Ice Reports

The Board normally requests that a copy of the site-specific meteorological forecast and a report of ice conditions also be provided daily to ensure the Board is fully informed of the status of conditions in the event of an alert or emergency situation.

6.3 Tour Sheets

One copy of the Tour Sheets should be submitted weekly to the Board. Please refer to subsection 149(2) of the drilling regulations.

6.4 Routine Notifications

Besides contact with the CNSOPB, Operators should establish routine contacts with the Canadian Coast Guard's Vessel Traffic Services and the Department of National Defence Search and Rescue in Halifax for notifying these agencies of marine activities and operational matters such as:

- Rig moves due to pack ice, icebergs, inspection or any other reason;
- A change in location of the drilling installation due to well termination; and
- Formation flow testing operations involving flaring of hydrocarbons.

Daily radio communication checks should be conducted with the appropriate CCG radio station.

6.5 Significant Events and Hazardous Occurrences

Any serious injury, loss of life, significant event or hazardous occurrence as specified by subsection 145(1) of the drilling regulations or section 15.4 of the occupational health and safety regulations must be reported to the Board immediately. The Board maintains a 24 hour answering service at 422-5588 for this purpose. The reporting procedures for such events should be in accordance with the procedures established in the operator's contingency plan.

Monthly summaries of accident statistics should also be provided to the Board. Suggested reporting formats for these statistics are also provided in Appendix A.

6.6 Well Evaluation and Data Acquisition

The requirements pertaining to well evaluation and data acquisition, including the submission of cuttings, cores and fluid samples, are specified in the Board's *Joint Guidelines Respecting Data Acquisition and Reporting for Well, Pool and Field Evaluations in the Newfoundland & Nova Scotia Offshore Areas*.

6.7 Formation Flow Tests

If the well is to be tested, a detailed testing program is required to be provided to the Board, as specified by section 171 of the drilling regulations. Written approval of the Board is required prior to conducting any formation flow test. Please refer to the Board's *Joint Guidelines Respecting Data Acquisition and Reporting for Well, Pool and Field Evaluations in the Newfoundland & Nova Scotia Offshore Areas*, for additional details respecting formation flow testing requirements.

Preliminary test results, including data such as flow rates, fluid type, gravity and other readily available information, should be reported to the Board by telephone as soon as possible followed up by a written report of the test results.

6.8 Well Termination

One (1) copy of the proposed well termination program must be forwarded at least 24 hours before termination operations are scheduled to commence in accordance with sections 177 and 178 of the drilling regulations. The termination program must be consistent with Part VII of the drilling regulations. The Board's approval of the program is required prior to terminating any well.

Three (3) copies of the Well Termination Record form, each signed by the senior operator's representative responsible for the program, is required to be forwarded to the Board within 21 days of the well termination date as specified by section 158 of the drilling regulations. A sample of the Well Termination Record is provided in Appendix A.

6.9 Final Well Reports

The Board requires four (4) copies of the Final Well Report.. In accordance with subsection 201(1) of the drilling regulations, the report is to be submitted within 90 days of the well termination date in the case of an exploratory well and within 45 days in the case of a development well. The contents of the reports required for exploratory and development wells are specified by subsections 201(2) and 201(3) of the drilling regulations, respectively. A suggested format for this report is provided in Appendix D. In addition, please refer to Appendix D of the Board's *Joint Guidelines Respecting Data Acquisition and Reporting for Well, Pool and Field Evaluations in the Newfoundland & Nova Scotia Offshore Areas*, for final well reporting requirements related to evaluation programs.

The reporting requirements associated with physical environmental and oceanographic data are specified in the *Guidelines Respecting Physical Environmental Programs During Petroleum Drilling and Production Activities on Frontier Lands*, April, 1994.

APPENDIX A

Sample Forms

Samples of the following forms are provided in this Appendix:

- Operating Licence
- Drilling Program Authorization
- Declaration of Operator
- Approval to Drill a Well
- Application To Alter The Condition Of A Well
- Geotechnical / Engineering / Environmental Program Authorization
- Monthly Accident Statistics
- Well Termination Record
- Regulatory Query Form

Originals may be obtained from:

Canada-Nova Scotia Offshore
Petroleum Board
6th Floor, TD Centre
1791 Barrington Street
Halifax, Nova Scotia
B3J 3K9

Telephone (902) 422-5588
Telecopier (902) 422-1799

CANADA – NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

OPERATING LICENCE

APPLICATION

_____
Name of Licensee

hereby applies, pursuant to subsections 142(2) of the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation Act and 135(3) of the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act for an Operating Licence.

_____ _____
Licensee Representative Date

_____ _____
Address Telephone

APPROVAL

This Operating Licence, issued to _____ called the Licensee, shall, subject to the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation Act and the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act and any regulations promulgated there under, and in consideration of the payment of a fee of twenty-five dollars, come into force on _____ and remain in force until the 31st of March, 20 _____.

This Operating Licence is not transferable.

Operating Licence No. _____

Signed: _____ Date: _____
Chief Executive Officer CNSOPB

CANADA – NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

DRILLING PROGRAM AUTHORIZATION

APPLICATION

Pursuant to subsections 142(2) of the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation Act and the 135(3) of the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act, _____ , as Operator, hereby applies for authorization of a proposed drilling program in the _____ region using the drilling unit _____ and the equipment and procedures described in the detailed program dated _____ , 19____.

Signed: _____ Date: _____
Operator's Representative

AUTHORIZATION

Authorization is hereby given to the Operator named in the Application, pursuant to subsections 142(1)(b) of the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation Act and 135(1)(b) of the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act, to conduct the proposed drilling program subject to the following outlines:

1. This Drilling Program Authorization shall, unless otherwise extended or terminated, expire upon the _____ day of _____ 19 ____ .

2. This Authorization shall be posted onboard the above mentioned drilling unit/rig at all times during which operations are being conducted;

3. The Operator shall, during the term of the Drilling Program Authorization, comply with the provisions of the following regulations, draft regulations, and all modifications and amendments thereto as may be promulgated from time to time:
   - N.S. Offshore Petroleum Drilling Regulations, SOR-92/676, November 23, 1992 with April 11, 1995 Amendment (SOR/95-188);
   - Petroleum Occupational Safety & Health Regulations - Nova Scotia (Draft, 05/90)
   - N.S. Offshore Petroleum Production & Conservation Regulations, April 11/95 (SOR/95-190);
   - N.S. Offshore Oil & Gas Spills & Debris Liability Regulations, Feb. 25/95 (SOR/95-123);
   - N.S. Offshore Certificate of Fitness Regulations, April 11/95 (SOR/95-187);
   - N.S. Offshore Petroleum Installation Regulations, April 11/95 (SOR/95-191);
   - N.S. Offshore Petroleum Production & Conservation Regulations, April 11/95 (SOR/95-190);
   - N.S. Offshore Oil & Gas Spills & Debris Liability Regulations, Feb. 25/95 (SOR/95-123);

   All certificates required by the above regulations or draft regulations shall be renewed as they become due and all relevant inspections needed to maintain these certificates shall be conducted

4. Evidence of financial responsibility, as contemplated pursuant to sections 168 of the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation Act and 160 of the Canada - Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act and section of the Canada - Nova Scotia Offshore Petroleum Drilling Regulations, shall be provided by the Operator.

5. The Operator shall use the equipment and procedures described in the detailed program dated _____ unless a change in the equipment or procedures is approved in writing by the Chief Executive Officer.

6. The Operator shall comply with such other conditions as are appended to this Authorization.

Signed: _____
Chief Executive Officer CNSOPB

Effective Date: _____

Authorization No.: _____

CANADA – NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

DECLARATION OF OPERATOR

In support of the Application entitled _____
dated _____ submitted to the Canada - Nova Scotia Offshore Petroleum Board for a work authorization regarding _____
_____, the undersigned applicant declares that:

(1) it has made diligent investigations and enquiries and has caused qualified persons to conduct such examinations, surveys, inspections and tests and has rendered such written reports and opinions as may be required or appropriate to provide a basis for this Declaration;

(2) the equipment installations that are to be used in the work or activity to be authorized, including, but not limited to, the equipment and installation identified in Schedule A (see note) attached, are fit for the purposes for which they are intended to be used, the operating procedures relating to them are appropriate for those uses, and the personnel who are to be employed in connection with them are qualified and competent for their employment; and

(3) the applicant shall ensure, so long as the work or activity which is authorized continues, that the equipment and installations continue to be fit for their intended purposes, the operating procedures continue to be appropriate for those uses, and the personnel continue to be so qualified and competent.

DATED this _____, day of _____ , 199___.

_____
Applicant

By: _____
Signature

_____
Name and Title

Notes:
1. This shall be submitted only after the Operator has confirmed that all aspects of the proposed work or activity are fit for purpose.
2. The activities of the Operator in support of this Declaration are subject to audits.
3. The Declaration of Operator will not be accepted by the CNSOPB unless accompanied by a completed Schedule A.

CANADA – NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

APPROVAL TO DRILL A WELL

APPLICATION

Pursuant to section 68 of the Nova Scotia Offshore Petroleum Drilling Regulations (SOR/92-676), _____, as operator, hereby applies for approval to drill a well to be known as _____ using the equipment and procedures described in the detailed well program dated _____.

Drilling Unit: _____ Contractor: _____
Field/Pool: _____ Type of Well: _____
Longitude: _____ Latitude: _____
Exploration Licence, Significant Discovery Licence or Production Licence: _____
Elevation - RT KB: _____ Seafloor: _____
Approx. Spud Date: _____ Est. Days on Location: _____
Anticipated TD: _____ Target Horizon(s): _____
Estimated Well Cost: _____

EVALUATION PROGRAM

10 m Sample Intervals: _____ 5 m Sample Intervals: _____
Canned Sampled Intervals: _____ Conventional Cores at: _____
Logs & Tests: _____

CASING & CEMENTING PROGRAM

O.D.	Weight	Grade	Setting Depth Below Seafloor	Cementing Program

B.O.P. Equipment: _____
Other Information: _____

The undersigned Operator's Representative hereby declares that to the best of his/her knowledge, the information contained herein, and in the detailed well program (attached), dated _____, is true, accurate and complete.

Signed: _____ Date: _____
Operator's Representative

APPROVAL

Approval is hereby given to the Operator named in this Application, pursuant to section 67 of the Nova Scotia Offshore Petroleum Drilling Regulations (SOR/92-676, to conduct the proposed well program subject to the following conditions:

1. This Approval shall be posted onboard the above mentioned drilling unit/rig at all times which operations are being conducted;
2. Copies of all logs and well test data shall be submitted to the CNSOPB by the Operator promptly after their acquisition;
3. The Operator shall comply with all conditions of the Drilling Program Authorization (number noted below), under which the above well is to be drilled;
4. The Operator shall comply with such other conditions as are appended to this Approval; and
5. No change in the well program hereby approved may be made unless it is first approved, in writing, by the Chief Conservation/Chief Safety Officer of the CNSOPB.

Signed: _____ Effective Date: _____
Chief Conservation/Chief Safety Officer

Drilling Program Auth. No.: _____ File/Well No.: _____

CANADA – NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

APPLICATION TO ALTER THE CONDITION OF A WELL

Pursuant to section 17 of the Nova Scotia Offshore Petroleum Production and Conservation (SOR/95-190), _____, as operator, hereby applies for approval to alter the well known as _____ using the equipment and procedures described in the detailed well program dated _____.

This application is to be submitted in triplicate at least **21 days before** commencement of operations

Coordinates - Lat: _____ Long: _____

Field/Pool: _____ Contractor: _____

Drilling Unit: _____ Depth: _____

Date ATDW Issued: _____ Date of Last Operation: _____

TYPE OF OPERATION

_____

_____

SUMMARY OF PROPOSED OPERATIONS

_____

_____

_____

_____

_____

_____

_____

_____

Signed: _____ Title: _____

Date: _____ Company: _____ - _____

APPROVAL

Approval is hereby given to the Operator named in this Application, pursuant to subsection 18(1) of the Nova Scotia Offshore Petroleum Production and Conservation Regulations (SOR/95-190, to conduct the proposed well program subject to the following conditions:

1. This Approval shall be posted onboard the above mentioned drilling unit/rig at all times which operations are being conducted;
2. Copies of all logs and well test data shall be submitted to the CNSOPB by the Operator promptly after their acquisition;
3. The Operator shall comply with all conditions of the Drilling Program Authorization (number noted below), under which the above well is to be drilled;
4. The Operator shall comply with such other conditions as are appended to this Approval; and
5. No change in the well program hereby approved may be made unless it is first approved, in writing, by the Chief Conservation/Chief Safety Officer of the CNSOPB.

Signed: _____ Effective Date: _____
Chief Conservation/Chief Safety Officer

Drilling Program Auth. No.: _____ File/Well No.: _____

CNSOPB
06/97

CANADA - NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

GEOTECHNICAL/ENGINEERING/ENVIRONMENTAL PROGRAM AUTHORIZATION

APPLICATION

Pursuant to subsections 142(2) of the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act and 135(3) of the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act,

_____ as Operator,

hereby applies for Authorization to Conduct a Geotechnical/Engineering/Environmental Program for:

_____

Program Area (Attach location maps): _____

Prime Contractor: _____ Estimated Program Cost: $_____

Exploration, Significant Discovery or Production Licence to which this Program applies: _____

_____

Purpose and Nature of Program: _____

_____

_____

Equipment, Vessels and Aircraft to be employed (Attach description): _____

_____

_____

Persons Employed: Canadian: _____ Other: _____

Proposed Dates: Commencement: _____ Completion: _____

The undersigned Operator's Representative hereby declares that, to the best of his or her knowledge, the information contained herein is true, accurate and complete.

Signed: _____ Date: _____
Operator's Representative

Name: _____ Title: _____

Address: _____ Telephone: _____

Operating Licence No: _____

AUTHORIZATION

Authorization is hereby given to the Operator named in the Application, pursuant to subsections 142(1)(b) of the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act and 135(1)(b) of the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act, to undertake the program described above subject to compliance with the following conditions:

1. This Geotechnical/Engineering/Environmental Program Authorization shall expire on _____, unless otherwise extended in writing by the Chairman of the CNSOPB;

2. The Operator agrees to submit a final report on the program to the Board within 90 days following completion of the field program;

3. The Operator shall notify CNSOPB via telex or other expedient means of the time of program commencement and termination and at weekly intervals while the program is in progress. The weekly report should include;
   - period covered by the report;
   - summary of the operations conducted during the report period;
   - present operation; and
   - forecast activity;

4. Major accidents, serious injuries or loss of life, or the sighting of an oil spill must be immediately reported to the Manager of Operations of CNSOPB.

Signed: _____ Effective Date: _____
Chairman CNSOPB

Program No: _____

CANADA – NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

CNSOPB OPERATORS MONTHLY
LOST TIME ACCIDENTS STATISTICS

Company_____ Month_____ 19__

Division	Person Hours		Lost Time Accidents		Medical Aid Accidents		L.T.A. Frequency	
	This Month	Year To Date	This Month	Year To Date	This Month	Year To Date	This Month	Year To Date
Rig Name: Rig Name: Total Rigs								
Vessel Name: Vessel Name: Vessel Name: Vessel Name: Vessel Name: Vessel Name: Total Vessels								
Aviation Supply Bases Offices Total Land Based								
Total Operation								

CNSOPB OPERATOR'S MONTHLY LOST TIME ACCIDENT STATISTICS

GUIDELINES

Definition of Lost Time Accident

- An accident resulting in an injury which prevents a worker from returning to his/her normal duty within 24 hours. Travel time for medical diagnosis, medical treatment or observation is not considered lost time. ANSI Z16.1 should be used as a guideline if further clarification is required.

- Frequency will be calculated using the following method:

$$\frac{\text{Number of Lost Time Accidents x 1,000,000}}{\text{Number of Hours Worked}}$$

- Monthly hours worked will be calculated using the following method:

RIG	- number of people on board x 12 hours per day x number of days per month
VESSEL	- number of people on board x 12 hours per day x number of days per month
AVIATION	- number of helicopters x 24 hours per day x number of days per month
SUPPLY BASE	- number of regular staff x 8 hours per day x number of days per month
OFFICE	- staff count x 8 hours per day x number of days per month

Reporting Requirements

- The monthlysummaries shall include accidents that take place on facilities, Drilling Units or vessals operated by or under contract to an operator involved in oil or gas exploration or development activities in the offshore.

- Summaries shall be submitted by the 15th day of the following month to:

Canada Nova Scotia Offshore Petroleum Board
6th Floor, TD Centre
1791 Barrington Street
Halifax, Nova Scotia
B3J 3K9

CANADA – NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

WELL TERMINATION RECORD

WELL DATA

Well Name: _____ Operator: _____

Drilling Unit: _____ Contractor: _____

Field/Pool: _____ Well Status: _____

Final Coordinates: Lat.: _____ Long.: _____

Elevations RT, KB: _____ Water Depth: _____

Spud Date: _____ Well Termination Date: _____

Total Depth: _____

CASING AND CEMENTING

O.D.	Weight:	Grade:	Depth Set:	Cement and Additives:

PLUGGING PROGRAM

Approval of the following program was obtained by (person) _____

from (person) _____ of the Canada-Nova Scotia Offshore Petroleum

Board by means of _____ dated _____.

Type of Plug:	Interval:	Felt. Pressure Tested:	Cement and Additives:

Lost Circulation/Overpressure Zones: _____

Equipment left on Seafloor (Describe): _____

Provision for Re-entry (Describe and attach sketch): _____

Downhole Completion/Suspension Equipment: _____

DECLARATION

The undersigned Operator's Representative hereby declares that on the basis of personal knowledge of operations undertaken at the above named well, the above information is true, accurate and complete.

Signed: _____ Title: _____
Operator's Representative

Name: _____ Date: _____

ACKNOWLEDGEMENT

Acknowledged by: _____ Date: _____
Chairman CNSOPB

Canada - Nova Scotia Offshore Petroleum Board

REGULATORY QUERY FORM

APPLICANT: PROJECT: SUBJECT:	APPLICANT'S FILE: DATE: PAGE: OF:
REGULATION: SOR:	SECTION:

QUERY:

PROPOSAL:

RATIONALE:

(USE ADDITIONAL PAPER IF NECESSARY)

APPLICANT SIGNATURE
PER:_____TITLE:_____TEL. #:_____

CERTIFYING AUTHORITY CONCURRENCE (IF APPLICABLE) PROPOSAL MEETS REQUIREMENTS OF NOVA SCOTIA OFFSHORE CERTIFICATE OF FITNESS REGULATIONS, SECTION 4(1)(a)(ii) PER:_____ TITLE:_____	C-NSOPB DECISION: PER:_____TITLE:_____ DATE:_____

FOR BOARD USE ONLY:	RQF NO.:	FILE NO.:

CANADA-NOVA SCOTIA OFFSHORE PETROLEUM BOARD
6th Floor TD Centre 1791 Barrington Street Halifax Nova Scotia B3J 3K9 Tel 902-422-5588 Fax 902-422-1799

INFORMATION LETTER

TO: **All Owners, Operators and Certifying Authorities in the Nova Scotia Offshore Area**

FROM: **J.E. (Jim) Dickey**
Chief Safety Officer
Chief Conservation Officer

RE: **Regulatory Query Process**

Operators and Owners in the Nova Scotia Offshore Area may wish to seek clarification on a regulatory requirement, propose to use alternate equipment, methods, measures or standards that provide an equivalent level of safety to those referenced in the regulations or seek exemption from a regulatory requirement. Such proposals should be submitted to the Canada-Nova Scotia Offshore Petroleum Board (the Board) for approval. The authority for the Board to address these proposals is contained in Section 147(1) of the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act and Section 155.(1) of the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act: (For convenience only the federal version is shown).

155. (1) Subject to subsection (2), the Chief Safety Officer and Chief Conservation Officer may

(a) authorize the use of equipment, methods, measures or standards in lieu of any required by regulation where those Officers are satisfied that the use of that other equipment or those other methods, measures or standards would provide a level of safety, protection of the environment and conservation equivalent to that provided by compliance with the regulations; or

(b) grant an exemption from any regulatory requirement in respect of equipment, methods, measures or standards where those Officers are satisfied with the level of safety, protection of the environment and conservation that will be achieved without compliance with that requirement.

Although the extent of documentation will depend on the request, there should be sufficient documentation for the Board to understand what is being proposed, why it is being proposed and the rationale for the proposed action. Therefore:

- The proposal should clearly state what is being proposed and its impact on safety, environmental protection and resource conservation as applicable. Legible drawings describing the proposal should accompany the text where appropriate;

- The reason for the request should be clearly stated. This may be to confirm an interpretation; to identify problems in the literal application of a regulation, code, etc.; to request guidance where sufficient detail is not provided, or to propose an alternative arrangement;

- The rationale for the proposed action should include examples of recent practices or trends and describe how the interests of safety, environmental protection or resource conservation will be adequately served;

- When approval of the use of alternate equipment, methods, measures or standards is being requested, the supporting documentation should include a statement of concurrence from the certifying authority if the proposal relates to an approved scope of work for a certifying authority. The concurrence of the certifying authority should clearly state that the alternative requirement will meet fitness for purpose requirements under Section 4(1)(a)(ii) of the Nova Scotia Offshore Certificate of Fitness Regulations

- When the proposal is an interpretation of a requirement in a code or standard referenced in the regulations, the validity of the interpretation could be sought directly from the author of the subject code or standard (such as CSA, API). Copies of communication to and from such authors should be submitted to the Board.

Attached is a form to be submitted with any regulatory queries.

APPENDIX B

DPA and ADW Checklists

The following checklists may assist operators in preparing the necessary documentation to meet the DPA and ADW requirements.

DPA Checklist	Submit to CNSOPB	Make Available to CNSOPB	Obtain
❒ Three duly executed copies of the DPA application form, each signed by the operator's senior representative responsible for the program. Application should be made three to four months prior to the anticipated spud date of the first well in the drilling program.	X		
❒ Operating Licence.			X
❒ Canada-Nova Scotia Benefits Plan (refer to section 45 of the Act.)	X		
❒ Evidence of Financial Responsibility (refer to section 168 of the Act, section 72 of the drilling regulations and the Board's Financial Responsibility Guidelines).	X		
❒ Declaration of Fitness (refer to section 143.1 of the Act).	X		
❒ Certificate of Fitness (refer to section 143.2 of the Act, section 6 of the Drilling Regulations and the Certificate of Fitness Regulations).	X		X
❒ Letter of Compliance for each Standby Vessel.	X		X
❒ Licences from Revenue Canada for any foreign vessels			X
❒ Permits for any foreign workers.			X
❒ DPA information package (3 copies), including			
❒ the timing and duration of the program;	X		
❒ the proposed number and location of the wells;	X		
❒ a general description of the drilling installation;	X		
❒ a summary of the logistics including the location of the offices and supply base;	X		
❒ a general description of the supply boats and helicopters to be used; and	X		
❒ a summary of the physical environment of the area.	X		
❒ Information for CNSOPB's Safety Assessment, including:			
❒ a description of any safety reviews of contractors,		X	
❒ a description of the operator's safety management program including how the operator's program is to be coordinated with the safety programs of the major contractors,	X		
❒ a copy of the general health and safety policy of the operator and each major contractor and a copy of any health and safety manuals for the operator and each major contractor,	X		
❒ a copy of any policies respecting the hiring, placement and training of personnel for the operator and each major contractor,		X	
❒ a copy of the operator's policies respecting the selection, inspection and maintenance of facilities and equipment,		X	
❒ a copy of the operator's safety auditing policies and procedures,		X	
❒ resumes of key personnel of the operator and each major contractor	X		
❒ names of the installation managers as designated by the operator (refer to section 198.2 of the Act),	X		
❒ documented proof of the requisite certified training of drilling and marine personnel as specified by the Canadian Offshore Petroleum Industry Qualifications, Safety, Training and Certification (Drilling) document, November, 1990,	X		
❒ confirmation of lifeboat coxswain training (refer to Appendix E),		X	
❒ qualifications of helideck landing officers (refer to Appendix E),		X	
❒ confirmation that all pilots are licensed by Transport Canada and have offshore flying experience with the aircraft being used,		X	
❒ description of the training of helicopter search and rescue personnel,		X	
❒ two copies of the operators Alert/Emergency Response Plan (refer to Appendix C). Note that ten copies of the draft plan should be distributed By the operator to various government agencies for comment – a list of the government agencies is available from the CNSOPB.	X		

DPA Checklist	Submit to CNSOPB	Make Available to CNSOPB	Obtain
❒ a copy of the ice management plan,	X		
❒ a copy of the drilling operations manual,	X		
❒ a copy of the well control and blowout prevention manual,	X		
❒ a copy of the marine operations manual for the drilling installation,	X		
❒ a copy of any safety manual for the drilling installation,	X		
❒ a summary of the operating history of the drilling installation,		X	
❒ general arrangement drawings of the drilling installation,	X		
❒ descriptions and specifications for the following, unless already contained in the drilling installation's operations manual(s):	X		
❒ Derrick			
❒ Substructure			
❒ Drillfloor			
❒ Rotary, Hoisting and Pipe Handling Systems			
❒ Heave Compensation Equipment			
❒ Marine Riser			
❒ BOP Stack			
❒ BOP Control System			
❒ Diverter			
❒ Diverter Control System			
❒ Choke Manifold			
❒ High Pressure Mud System			
❒ Low Pressure Mud System			
❒ Bulk System			
❒ Degassing Equipment			
❒ Cementing Unit			
❒ Drill Pipe			
❒ Drill Collars			
❒ Safety Valves and Inside BOP's			
❒ Communication Systems			
❒ Navigation Systems			
❒ Radar Systems			
❒ Propulsion Systems			
❒ Bilge and Ballast Systems			
❒ Mooring System			
❒ Firefighting Systems			
❒ Evacuation Systems			
❒ Lifesaving Appliances			
❒ Mooring Quick Release System			
❒ a description of the planned preventative maintenance system for the drilling installation, in particular the following:			
❒ planned preventative maintenance system for evacuation systems, lifesaving appliances and rescue craft, and		X	
❒ inspection testing and maintenance routines for materials handling equipment,			
❒ a description of the work permit system for the drilling installation, in particular the following:			
❒ hot work,			
❒ electrical work,		X	
❒ mechanical isolation,			
❒ confined space entry, and			
❒ transfers using the personnel basket (refer to Appendix E),			
❒ a copy of the failure modes and effect analysis of the drilling installation's ballast control system (refer to s. 57(13) of the installations regulations),	X		
❒ confirmation that equipment used to transport personnel is certified by the manufacturer for this purpose (refer to Appendix E),		X	
❒ confrimation that all materials handling equipment has been inspected and tested by an independent third party (refer to Appendix E),		X	
❒ confirmation that all frieght containers have been built to a recognized code (refer to Appendix E),		X	

DPA Checklist	Submit to CNSOPB	Make Available to CNSOPB	Obtain
❒ a copy of the Joint Occupational Health and Safety Committee procedures on the drilling installation,		X	
❒ a copy of the lighting survey of the drilling installation,		X	
❒ a copy of the sound survey of the drilling installation,		X	
❒ a copy of the hygiene survey of the drilling installation,		X	
❒ a copy of the approved deck cargo stowage plan for each standby vessel (refer to section 8 of the Standards Respecting Standby Vessels, TP7920),	X		
❒ the operations manual for each supply vessel,	X		
❒ a copy of any safety manual for each supply vessel,	X		
❒ a description of the planned preventative maintenance system for each supply vessel,		X	
❒ a description of the work permit system for each supply vessel, in particular the following:			
❒ hot work,		X	
❒ electrical work,			
❒ mechanical isolation, and			
❒ confined space entry,			
❒ for each helicopter:			
❒ confirmation that it is certified by Transport Canada,			
❒ confirmation that it is of multiple engine design,			
❒ confirmation of its capability to land on water,		X	
❒ a description of the communications equipment onboard the aircraft, and			
❒ confirmation the aircraft is equipped with liferafts,			
❒ a description of the helicopter transportation suits to be used,	X		
❒ confirmation that a helicopter will be maintained on standby and dedicated to search and rescue on a 24-hour per day basis,	X		
❒ a description of the helicopter contractor's planned preventative maintenance system, and		X	
❒ a description of the equipment to be maintained on the standby helicopter.		X	
❒ Information for CNSOPB's Environmental Assessment, including:			
❒ an estimate of types and quantities of substances to be discharged from the drilling installation and a description of the equipment and procedures which will be in place to treat these discharges (refer to the Offshore Waste Treatment Guidelines, September, 1996),	X		
❒ two copies of the oil spill response plan (refer to Appendix C),	X		
❒ the qualifications and experience of oil spill response personnel,	X		
❒ proposed arrangements for the measurement, observation and forecasting of environmental conditions (refer to the Guidelines Respecting Physical Environmental Programs During Petroleum Drilling and Production Activities on Frontier Lands, April, 1994),	X		
❒ the qualifications and experience of the weather forecast personnel,	X		
❒ oil based mud procedures, if oil based drilling muds are to be used (refer to the Offshore Waste Treatment Guidelines, September, 1996).	X		

ADW Checklist	Submit to CNSOPB	Make Available to CNSOPB	Obtain
☐ Seabed Survey Report (2 copies).	X		
☐ Well Prognosis (3 copies) including:	X		
☐ name and classification of the well;	X		
☐ spud date;	X		
☐ total depth;	X		
☐ water depth;	X		
☐ elevation of the rotary table;	X		
☐ the proposed geographical coordinates of the well and the tentative survey plan to be used to position the drilling installation at the wellsite;	X		
☐ the names of the companies participating in the well and their percentage interest and share of costs;	X		
☐ a summary of any potential hazards identified by the seabed survey and the proposed measures to deal with any hazards;	X		
☐ the detailed geological prognosis including:	X		
☐ a technical discussion of the prospect;	X		
☐ the anticipated stratigraphy and lithology to be penetrated;	X		
☐ the target horizons;	X		
☐ two fully processed interpreted multi-channel seismic sections that cross the proposed wellsite at, or close to, right angles;	X		
☐ a geophysical structure map at a scale of 1:25,000 or 1:50,000 showing contours in depth or time for each target horizon; and	X		
☐ the proposed deviation limits in respect of the intersection of the wellbore with the target geological horizons,	X		
☐ in the case of development wells, the co-ordinates of the location at which the well is designed to penetrate the production or injection interval;	X		
☐ the detailed drilling program including:	X		
☐ the procedures to be used for positioning and, if applicable, mooring the MODU at the wellsite; and	X		
☐ the step-by-step sequence of operations for drilling the well, including hole sizes and depths, drilling assemblies, directional and deviation surveys, formation leak-off tests, BOP and casing tests and the casing running and cementing procedures.	X		
☐ a description of the well control equipment to be employed including the arrangements, sizes and the pressure ratings of the ram and annular type blowout preventers and the arrangement of the choke manifold;	X		
☐ a plot of the anticipated formation and fracture gradients showing also the casing setting depths;	X		
☐ a drilling time curve;	X		
☐ the casing program including the size, grade, weight and engineering properties of each proposed casing string and the design parameters and the calculations of the safety factors for each casing string;	X		
☐ the cementing program including the estimated volumes, composition and properties of each slurry and the height of each slurry above each casing shoe or the intervals to be cemented behind each casing string;	X		
☐ the drilling fluids program including, for each hole phase, a description of the type and composition of the drilling fluid, the desired properties, and the function, toxicity and estimated quantities of each product and additive to be used; and	X		
☐ the well evaluation program including drill cuttings, conventional and sidewall cores, wireline logs and formation flow tests and confirmation that the cuttings, cores and fluid sample requirements of the CNSOPB will be met (refer to the Board's *Data Acquisition and Reporting Guidelines*).	X		

APPENDIX C

Contingency Plans

Introduction

Section 64 of the drilling regulations and section 17.9 of the occupational health and safety regulations requires operators to ensure that contingency plans have been formulated and that equipment is available to cope with any reasonably foreseeable emergency situation that may arise during a drilling program, including:

(a) serious injury to or the death of any person;
(b) major fire;
(c) loss of or damage to support craft;
(d) loss or disablement of a drilling installation;
(e) loss of well control;
(f) drilling of a relief well;
(g) hazards unique to the drill site;
(h) spills of oil or other pollutants; and
(i) criminal activity or threats of criminal activity.

With reference to item (g) above, hazards unique to the Nova Scotia offshore area include:

- heavy weather; and
- ship collision with the drilling installation.

Operators are encouraged to submit a draft "contingency plan" for the CNSOPB's review. The CNSOPB will consult with the appropriate departments of the provincial and federal governments and provide the operator with a consolidated list of comments. Three (3) copies of the draft plan are required for this review.

Operators have found it convenient to prepare the following documents in respect of this matter:

- Alert/Emergency Response Plan; and
- Oil Spill Response Plan.

Format

Response plans should be prepared on letter-sized paper suitably bound to allow for revisions. The documents should have clearly labelled tabs or other reference aids and a sheet for recording revisions. The names and phone numbers of key personnel and organizations should be provided in a separate section.

Contents

Because response plans are intended to guide on-site personnel in responding to emergency situations, it is appropriate to limit the contents to:

- an organization chart depicting key positions of the operator, drilling contractor, supply vessel contractor and helicopter contractor;
- the responsibilities of key personnel in the management of emergencies;
- the procedures for responding to each emergency;
- reporting and notification procedures; and
- alert criteria and the procedures for responding to alerts.

Any necessary support documentation should be provided in appendices or separate documents. Support documentation may include a description of:

- on-site first aid and backup medical support;
- communications equipment and facilities;
- flight following and overdue aircraft procedures;
- any self-help equipment such as a standby helicopter, life rafts and other sea rescue equipment;
- arrangements for the drilling of a relief well;
- the ice management program including ice detection, monitoring and avoidance procedures; and
- a description of the mooring quick release system and procedures.

Alert Criteria

The following criteria for declaring an alert and implementing precautionary measures, including possible down manning, have been established:

- wind speeds at the drilling installation are forecasted to exceed or actually exceed 80 knots;
- a kick or well control problem is being experienced;
- a ballast control, flooding or stability problem is being experienced; or
- a vessel on a possible collision course with the drilling installation.

Standby Vessels

Under normal conditions, the standby vessel should remain within one nautical mile of the drilling installation.

Under storm conditions, this distance can be increased in consideration of the safety of the standby vessel itself, but it should generally remain within 20 minutes of the installation, unless a greater distance is approved by the installation manager. In such cases, the reasons for this approval should be logged.

The vessel should attend close to the installation under the following circumstances:

- helicopter landings and take-offs;
- diving operations in progress;
- drill stem testing;
- well control operations; or
- personnel working over the side.

The standby vessel should also participate in any abandon ship or person overboard drills.

Standby Helicopter

Operators offshore Nova Scotia are expected to maintain a standby helicopter available to assist with search and rescue on a 24-hour per day basis.

Resource Sharing Arrangements.

When more than one operator is active in an area, operators are expected to put in place mechanisms to facilitate the rapid exchange of information and, if necessary, to share resources such as boats and helicopters in order to prevent or respond to emergency situations. Operators are also expected to maintain a flight following and vessel tracking capability.

Relief Well Drilling Arrangements

Operators are expected to identify an alternate drilling installation for relief well purposes and provide a description of its operating capability, its location, contractual commitments, state of readiness and the schedule for mobilization to the wellsite. The source of supply for a backup wellhead system and all consumables required to set conductor and surface casing for the relief well should also be identified.

Oil Spill Response Plan

The operator is expected to identify and confirm its arrangements for mobilizing oil spill countermeasures equipment to the wellsite and to document its procedures for responding to an oil spill. The qualifications of personnel responsible for the management of oil spill response should also be documented. The plan should also:

- include a description of the procedures for responding to small spills;
- describe the containment and cleanup strategy for shoreline and any ice covered areas; and
- provide confirmation of the operator's capability to implement an oil spill trajectory model using real time wind and current data.

Environmental reference material necessary to establish oil spill cleanup priorities should be included as an appendix or referenced separately. This material may include a description of:

- biological sensitivity charts (with texts) identifying the area containing flora and fauna that are sensitive to spills as well as natural preserve areas;
- socio-economic sensitivity charts indicating local industry and the probable impact of oil spills;
- physical sensitivity charts of coastline areas which identify shoreline types, coastal currents, ice forms and movement, and the nature of the littoral zone; and
- when oil spill trajectory analysis are required, for each month, a three month projection for spills originating at the wellsite and followed until the slick volume is reduced to 5%; the shoreline is reached; or the slick moves out of the modelled area. This analysis should include contours or envelopes of 90%, 50%, and less than 50% probability of the extent of oil migration from the release point.

Exercises

Operators are encouraged to hold a communications exercise shortly after spudding the first well. The Board is prepared to assist operators in planning and conducting this exercise. A report of the exercise noting any necessary changes to the response procedures should be prepared following the exercise.

Pursuant to paragraph 125(d) of the drilling regulations, operators are required to ensure that a practice exercise of oil spill counter measures is held at least once in each year that the operator is engaged in a drilling program. Accordingly, the operator is requested to outline the arrangements for this exercise upon application for a DPA. A summary report of this exercise should be prepared.

APPENDIX D

Final Well Reports

The requirement to prepare and submit a Final Well Report is specified by subsection 201(1) of the drilling regulations. The contents of the reports required for exploratory and development wells are specified by subsections 201(2) and 201(3) of the regulations, respectively. Additional details regarding the content and format of these reports are provided in this appendix. Throughout this document, the applicable sections of the drilling regulations are provided in parenthesis for ease of reference.

Please note that this appendix deals with the drilling and operational aspects of the final well report. Please refer the Board's *Joint Guidelines Respecting Data Acquisition and Reporting*, for final well reporting requirements related to the geological and well evaluation aspects.

Four (4) copies of the Final Well Report must be submitted to the Board within ninety (90) days of the rig release date in the case of an exploratory well and within forty-five (45) days in the case of a development well.

1. General Format

Final well reports should be prepared on letter-sized paper, suitably bound. Measurements should be given using the S.I. system unless otherwise approved. Dates and times should be given as year/month/day/hour. The subjects which should be addressed in the reports for exploratory and development wells are identified by **Exp.** and **Dev.**, respectively. **If information pertaining to a particular heading does not exist, will not become available, or, is not applicable to the particular well, a statement to this effect should be made.**

1.1 Title Page (Exp. & Dev.)

Full name of the well, name of the operator's representative responsible for the report and the date that the report was prepared.

1.2 Introduction (Exp. & Dev.)

A recapitulation of approximately 200 words giving the nature and purpose of the well, name of the operator and drilling contractor, name and type of drilling unit, a summary of operations at the well site, the formations penetrated, the results of any formation flow testing and the current status of the well i.e., suspended, completed or abandoned.

1.3 Map (Exp.)

A single page map showing the location of the well with respect to an identifiable shoreline or topographical feature(s).

1.4 General Information (Exp. & Dev.)

Include well name, co-ordinates and a description of the surveying system used to determine the final well position. Only the well name and co-ordinates are required for development wells.

1.5 Drilling Unit Performance (Exp.)

Graphs of prevailing weather and sea conditions, including wave period. Summary of vessel performance in response to these conditions on the same time scale as that of the first graph. The analysis should be derived from the records of the environmental observer, with emphasis on peak or critical periods.

1.6 Difficulties and Delays (Exp.& Dev.)

Provide a summary of any problems encountered and the steps taken to overcome the problems. An estimate of the total time delay associated with each problem should be provided. In particular any down time due to weather, pack ice or icebergs should be provided, broken down into hours-per-month.

2. Drilling & Completion Operations

The following data should be provided:

2.1 Elevation (Exp.& Dev.) - elevation of rotary table above mean sea level.

2.2 Water Depth (Exp.& Dev.) - water depth and the distance from the rotary table to seafloor.

2.3 Total Depth (Exp. & Dev.) - specify drilled depth, logged depth and, if applicable, plugged-back depth.

2.4 Spud Date (Exp. & Dev.) - date and hour spudded.

2.5 Date Drilling Completed (Exp. & Dev.) - date and hour total depth of the well was reached.

2.6 Rig Release Date (Exp. & Dev.) - date and hour the drilling rig last conducted operations on the well.

2.7 Well Status (Exp. & Dev.) - suspended, abandoned or completed.

2.8 **Hole Sizes and Depths (Exp. & Dev.)** - bit diameters and total depth drilled for each section of hole.

2.9 **Bit Records (Exp. & Dev.)** - as per IADC/CAODC codes and format.

2.10 **Casing and Cementing Record (Exp. & Dev.)** - for each casing string, indicate size, weight, grade, number of joints, type of thread/connection, depth of shoe and make and type of casing hangers and seals. With respect to cementing details, indicate location of centralizers and scratchers, sacks of cement, type and amount of cement additives, the intervals cemented or top of cement behind each casing string and the basis for the estimated top of cement, i.e., calculations or cement bond log.

2.11 **Sidetracked Hole (Exp. & Dev.)** - describe any sidetracked hole, the reason for sidetracking, the method used and the effectiveness of the operation.

2.12 **Drilling Fluid (Exp. & Dev.)** - type of drilling fluid and summary of the properties maintained for each phase of the hole. If an oil based drilling fluid was used, provide information on the total quantity of oil based mud consumed during drilling; a calculation of the total amount of mud-derived oil discharged with cuttings; a description of the effectiveness of cuttings treatment with reference to weekly measurements of oil retention on cuttings, i.e., grams of oil per 100 grams of cuttings, types and sizes of cuttings, and number of samples; a summary and description of any losses of base oil or oil-based mud; and, a summary of any monitoring program.

2.13 **Fluid Disposal (Exp. & Dev.)** - details of any fluid disposal downhole, including volumes, rates, pressures, dates, nature of the fluid.

2.14 **Fishing Operations (Exp. & Dev.)** - details of any fishing operations, a description of any fish left in the hole and a statement regarding the probable cause of the problem.

2.15 **Well Kicks (Exp. & Dev.)** - details of any kicks encountered including volumes, pressures and a summary of associated well control operations.

2.16 **Formation Leak-Off Tests (Exp. & Dev.)** - details of each leak-off test including depth, mud density, applied surface pressure, mud weight equivalent and last casing depth. Copies of the leak-off test reports and graphs should be included.

2.17 **Time Distribution (Exp. & Dev.)** - a table of the hourly activity as recorded on the IADC/CAODC Daily Drilling Reports from the hour the well was spudded to the time the rig was released, showing the total hours for each type of operation.

2.18 **Directional and Deviation Surveys (Exp. & Dev.)** - a summary of the directional and deviation surveys and the bottom hole co-ordinates, referenced to surface location. A plan view showing the location of the well bore with respect to the well head for a discovery well and any well that deviated more than 10 from the vertical over any part of the hole should also be provided.

2.19 **Abandonment/Suspension Plugs (Exp. & Dev.)** - type and depth of plugs including, for cement plugs, the type and amount of cement and additives. The nature of fluids remaining between plugs should also be provided.

2.20 **Well Schematic (Exp. & Dev.)** - showing casing, tubing, plugs and any other equipment installed in or on the well. For development wells, provide details of the completion operations including a schematic of the well, details of the production tree configuration and specifications of the subsurface safety valve.

2.21 **Fluid Samples (Exp. & Dev.)** - a listing of any fluid samples collected including depths, type, number and volume, tests conducted and final disposition.

2.21 **Composite Well Record (Exp. & Dev.)** - a chart summarizing all relevant drilling and geological data on a suitable depth scale, including the following information:

- time-depth plot denoting all major operational activities;
- major lithological units;
- rates of penetration;
- gas detection curves;
- hydrocarbon shows;
- cores;
- bit record;
- casing points;
- test intervals; and
- plugs.

2.22 **Final Legal Survey Plan (Exp. & Dev)**

APPENDIX E

Guidance on Specific Regulatory Requirements

Evacuation Systems

With reference to section 22 of the *Nova Scotia Offshore Petroleum Installation Regulations* (the installation regulations), it is the Board's expectation that operators demonstrate that the best practicable evacuation technology available be used on drilling installations. Unless otherwise approved, the Board expects operators to ensure that the drilling installation is equipped with an enhanced evacuation system.

Maintenance of Evacuation Systems

Paragraph 63(1)(k) of the installations regulations requires that operating and maintenance instructions for all lifesaving appliances be available on the installation and section 12.3 of the *Petroleum Occupational Health and Safety Regulations* (the OSH regulations) specifies that all protection equipment be inspected and tested by a qualified person.

Information published by the International Maritime Organization and others indicates a significant number of incidents related to the improper maintenance of evacuation systems. As a result, the Board expects operators to review the adequacy of the planned and preventative maintenance system for evacuation systems, lifesaving appliances and rescue craft and to monitor and audit these maintenance programs to ensure that they are operating effectively and in compliance with all regulatory requirements. It is also expected that the manufacturer's maintenance instructions for the lifeboats, release mechanisms and launching equipment be available onboard the installation.

During field audits, the Board's safety officers may request documented evidence that evacuation systems are being inspected, tested and maintained in accordance with the manufacturer's instructions. Tests recommended by the manufacturer typically include lowering tests, release gear function tests and launch tests. Since some testing procedures may involve risk of personnel injury, operators are reminded that safety precautions must be in place prior to conducting the tests.

Training of Lifeboat Coxswains

Pursuant to section 17.13 of the OSH regulations and section 124 of the drilling regulations, operators are required to ensure that personnel are adequately trained in emergency procedures. Although these regulations do not explicitly specify the training required for lifeboat coxswains, it is the Board's expectation that at least two persons per lifeboat hold a Lifeboat Man or Survival Craft certificate, consistent with the requirements of subsection 18(5) of the *Crewing Regulations* pursuant to the *Canada Shipping Act*. These certificates should be renewed every three years to ensure a high degree of emergency preparedness.

Lifeboat coxswains should participate in two lifeboat launches each year, either at the installation, or, at a shore based facility.

Materials Handling Equipment

Part XIV of the OSH regulations specifies the requirements for the design, operation and maintenance of materials handling equipment and requires that the employer establish inspection, testing and maintenance routines. The regulations also reference the applicable codes and standards respecting inspection, testing and maintenance programs.

Pursuant to these requirements, the Board expects all materials handling equipment to be inspected and tested by a competent and independent third party to verify that the equipment is suitable for use. Such inspections should be documented and must be traceable to individual items of equipment. Except as otherwise required by the

regulations or by the codes and standards referenced by the regulations, these inspections should begin not more than six months prior to an installation beginning work offshore Nova Scotia and every six months thereafter.

Please note that these third party inspections do not relieve the equipment owner of the duty to properly inspect, maintain and operate the equipment. Operators are expected to review and be satisfied with the drilling contractor's planned/preventative maintenance system for this equipment. Operators are further expected to monitor and audit these maintenance programs to ensure that are operating effectively and in compliance with all regulatory requirements.

The third party inspections and tests noted above should pay particular attention to any equipment used to transport personnel. This equipment must be certified by the manufacturer for this purpose and meet the requirements of section 14.34 of the OSH regulations.

Freight Containers

Freight containers should be designed, constructed, inspected and maintained in accordance with an appropriate standard for offshore petroleum freight containers. One of the following standards is recommended:

- BS7072 - *British Standard Code of Practice for Inspection and Repair of Offshore Containers*, 1989.
- Det Norske Vertias Standard 2.7-1
- European standard - *Offshore Containers Design, Construction, Testing, Inspection and Marking*, prEN 12079 August 1995 (Draft).

The Board notes that no Canadian standard currently exists for offshore containers.

Transfer of Personnel by Crane Basket

Section 4.3 of the OSH regulations sets out the minimum requirements for the use of personnel transfer baskets. As noted above, all cranes and baskets used for personnel transfer must be appropriately designed and certified for that purpose. Operators are reminded that personnel transfer baskets should only be used in emergencies or when alternative means of transferring personnel are unsafe or unavailable.

Subsection 4.3 (2)(a) specifically requires that safe procedures be established for the transfer of personnel. These procedures should, as a minimum;

- define the environmental (wind, sea state & visibility) limits for transfer;
- define the duties and responsibilities of personnel;
- clearly define all communications requirements such as;
  - crane operator and vessel master in direct radio contact;
  - signal person in visual or radio contact with crane operator; and
  - vessel master in radio contact with deck crew;
- require written agreement from the crane operator, vessel master and personnel to be transferred;
- outline the safety checklist to be used prior to the transfer, including the instructions to be given to personnel and the personal protective equipment that must be used;
- specify that personnel to be transferred must wear approved helicopter transportation suits; and
- explicitly require the authorization of the OIM.

The Board expects that operators will review, approve and monitor the implementation of personnel transfer procedures.

Transfer operations should be limited to daylight hours except in emergency situations.

The standby vessel must be in close attendance and the crew of the fast rescue craft should be placed on alert during all transfer operations.

Helicopter Operations

Section 9 of the drilling regulations specifies that all support craft be designed and constructed to operate safety and to provide safe and efficient support for drilling operations. Consistent with this regulation, it is the Board's expectation that helicopters meet the following requirements:

- All helicopters must be certified by Transport Canada.
- All pilots must be licenced by Transport Canada.
- Helicopter crews should have experience with the aircraft being used and experience with offshore operations.
- Aircraft should be of multiple-engine design.
- Aircraft should be capable of landing on water.
- Aircraft must be capable of communication with
  - the shore base,
  - the drilling installation,
  - supply vessels, and
  - lifeboats.
- All aircraft must be equipped with life rafts.
- Aircraft interiors should be configured to allow the emergency egress of passengers.
- Suitable upper torso passenger restraints should be used in the aircraft, if feasible.

All passengers must receive Helicopter Underwater Escape Training (HUET) and be suitably briefed prior to transport. All passengers must also wear approved helicopter transportation suits.

Operators should give proper consideration to helicopter weather and load limits when planning flights.

Flying at night should be avoided to the extent possible.

Passengers and freight should not normally be carried on the same aircraft.

Please refer to Appendix C (Contingency Plans) for requirements related to an emergency standby helicopter and flight following.

Helideck Operations

Procedures for helideck operations onboard the drilling installation should be clearly defined in consultation with the helicopter contractor. All helideck operations must be under the supervision of a formally trained and designated Helicopter Landing Officer.

Joint Occupational Health Safety Committee

Operators must ensure that all contractor's employees are represented by a Joint Occupational Health and Safety Committee pursuant to sections 29 to 32 of the Nova Scotia *Occupational Health and Safety Act.* On drilling installations, where more than one contractor is present, the operator should encourage a single committee with representation from the various subcontractors. Operators also have an obligation to monitor the functioning of these committees.

Right to Refuse Dangerous Work

Operators must ensure that all employees are made aware of their right to refuse dangerous work and the procedures to be followed in the event of such a refusal pursuant to the Nova Scotia *Occupational Health and Safety Act*. Operators must ensure that the employee's right to refuse is understood by management and may be exercised without fear of discrimination.

It should be noted that, in emergency situations, where a worker's refusal threatens the safety of the installation or other employees, the OIM has the power, pursuant to section 198.2 of the *Canada-Nova Scotia Offshore Petroleum Accord Implementation Act*, to issue orders superseding a worker's right to refuse.

Qualifications and Certification

Pursuant to the requirements of the OSH regulations, which define a qualified person as someone who has the necessary knowledge, training and experience to perform a specific task safely and properly, and, section 124 of the drilling regulations, which requires that operators ensure that every person employed on a drilling program is properly trained and instructed and capable of doing the duties assigned, the Board expects operators to be able to demonstrate that all personnel employed on a drilling program are properly trained and qualified.

In addition to the positions explicitly identified in the *Qualifications, Certification, Safety Training and Certification (Drilling)*, November, 1990 and the requirements specified above for lifeboat coxswains and helicopter landing officers, operators are requested to pay particular attention to the competence of individuals employed to do electrical, mechanical, welding and other technical work.

Operator's and contractor's managers should be formally trained in safety management and a trained safety professional should be available to advise them.

It is also the Board's expectation that the *Crewing Regulations* and the *Marine Certification Regulations* proclaimed pursuant to the *Canada Shipping Act* will be applied to foreign flag drilling MODUs to the extent practicable.

Control of Work

Operators are expected to ensure that contractors have in place an effective system of work permits to control hot work activities, electrical and mechanical isolation and entry into confined spaces. These permits should reflect the requirements of Part VIII of the OSH regulations (dealing with electrical safety), Part XI (dealing with confined spaces), Part XIII (dealing with tools and machinery) and Part XVII (dealing with the safe occupancy of the work place). The work permit system must also define responsibilities of personnel, the procedures to be followed for the work and specify the precautions for the physical lockout of hazards. Operators are expected to monitor and audit the effectiveness of the work permit system.

Inspection, Testing and Maintenance

Operators are expected to review and be satisfied with contractor's planned/preventative maintenance system for all safety critical systems. Operators are further expected to monitor and audit these maintenance programs to insure that are operating effectively and in compliance with all regulatory requirements.

Lighting, Sound and Hygiene Surveys

A formal lighting survey, a formal sound survey and a formal health and hygiene survey should be conducted onboard the drilling installation for the purpose of confirming compliance with Part VI of the OSH regulations (dealing with minimum required levels of lighting), Part VII (dealing with maximum permissible levels of sound) and Parts IX and X (dealing with sanitation and hazardous substances, respectively).